

**DELTA – SIGMA MODULATORS WITH  
IMPROVED NOISE PERFORMANCE**

**5 ABSTRACT OF THE DISCLOSURE**

[0036] An integrator stage for use in a delta sigma modulator includes an operational amplifier, an integration capacitor coupling an output of the operational amplifier and a summing node at an input of the operational amplifier, and a feedback path. The feedback path includes first and second capacitors  
10 having first plates coupled electrically in common at a common plate node and switching circuitry for sampling selected reference voltages onto second plates of the capacitors during a sampling phase. The integrator stage further includes a switch for selectively coupling the common plate node and the summing node during an integration phase.

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